

# THE AEROPLANE SPOTTER

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**THE BULLETIN OF THE OBSERVER CORPS CLUB**

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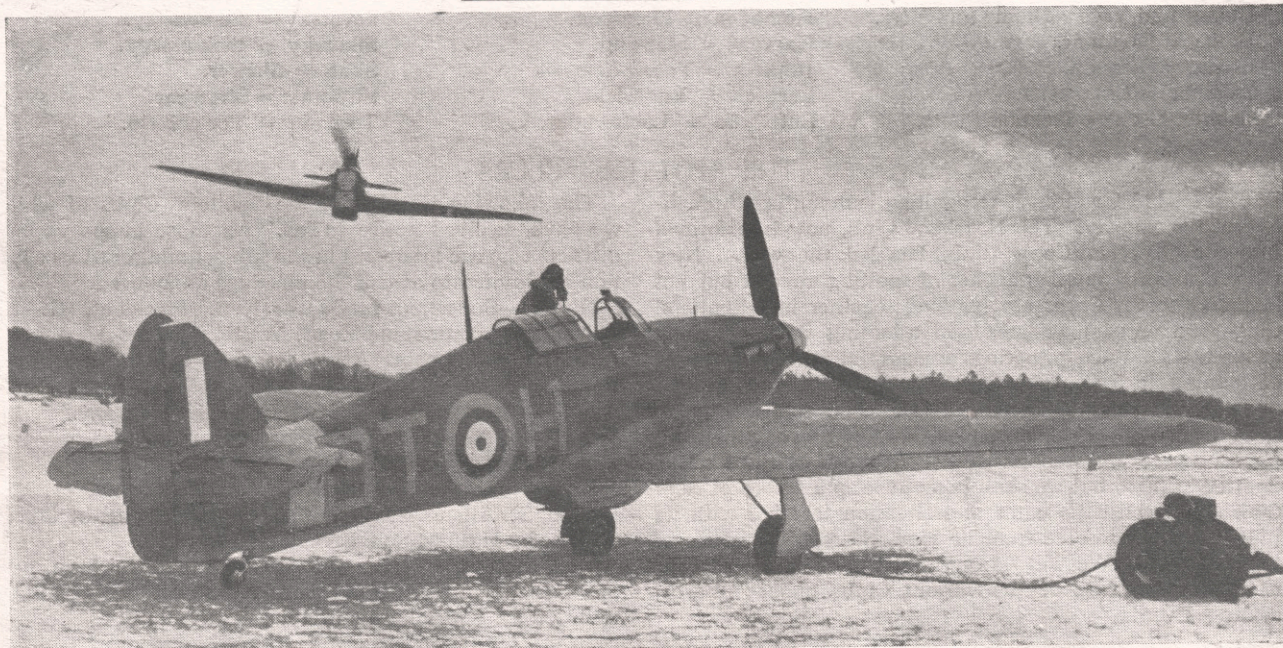
**FOR THE ALERT**

**THURSDAYS**

**3<sup>RD</sup>**

OF ALL NEWSAGENTS  
OR DIRECT FROM THE  
PUBLISHERS, POSTAGE PAID

12 Months 17/4 6 Months 8/8 3 Months 4/4



*BURMA HURRICANES.—HAWKER HURRICANE SINGLE-SEAT FIGHTERS OF NO. 257 SQUADRON.*

**S**PONTANEOUS enthusiasm for the difficult but fascinating subject of aircraft recognition is spreading rapidly. Those who take up spotting as a National duty rapidly become imbued with a real interest in the subject and through it in aeronautics in general. This spreading and deepening interest may well lead towards an important and widespread aeronautical movement after the War.

Meanwhile the subject requires a sure foundation. Aircraft identification as an art and as a science is still in the process of evolution. Now is the time to make sure that it progresses along the right lines. The first duty of THE AEROPLANE SPOTTER is to attempt to lay that sure foundation which is essential to novices and experienced observers alike.

The first requisite is a definition of what and how to study. The Air Ministry as represented by the Observer Corps has now approved a basic list of 50 types of aeroplane laid down as the minimum which any Spotter should be required to know. Variations of basic types among this 50—such as the Hampden and the Hereford—bring up the total to 62 different aeroplanes. The list is published on another page in this issue.

All biplanes have been eliminated from the elementary list as, in general, they may be considered friendly. The 16 most common biplanes are incorporated in a second list of 50 aeroplanes intended as a further stepping stone along the course of the Spotter's career.

Yet a third list of another 50 selected types, British, American, German and Italian, form a First Class group.

Still more comprehensive selections lead on the aspiring Spotter to knowledge of a total of some 400 aeroplanes as an ultimate goal.

These lists form the foundation of all aircraft identification and should be standardised as such throughout the country. Only by this means can aircraft recognition be put on a uniform National basis. That object is of primary importance.

The 62 aeroplanes of the 50 basic types in the approved Third Class group might well be adopted as a National standard, representing the minimum which any spotter anywhere should be required to know. The lists will be overhauled every three months to keep them in step with development and obsolescence.

The question of the standardisation of silhouettes arises at once. Silhouettes are not everything nor are they sufficient by themselves. But they are necessary for the assimilation of the positive points of recognition and, in ideal conditions, they are best combined with photographs. Complete accuracy and a common standard of silhouette is required throughout the country. Now, with official help, sets of really accurate and detailed silhouettes are being prepared in complete series for each of the approved classes. One silhouette appears on each card. These sets will form the standardised basis of tests throughout the Observer Corps Club. They are available as well to the general public so that by universal adoption the whole subject of aircraft recognition would be put on that standard basis which is so greatly needed.



# NEWS OF THE WEEK

## AIRCRAFT PRONUNCIATION.

**C**ONFUSION sometimes arises from varying ideas on the correct pronunciation of the names of some British aeroplanes. The classic example is confusion between Anson and Ensign when the latter is pronounced nautically "Ens'n."

Aileron = **Alf**-er-on.  
 Arado = **Ar-rah**-doe.  
 Audax = **Or**-dax.  
 Autogiro = Auto-**ji**-ro.  
 Beaufort = **Bo**-fort.  
 Blenheim = **Blen**-em.  
 Blohm und Voss = Blome and Voss.  
 Botha = **Boath**-er.  
 Breda = **Bray**-da.  
 Catalina = Cata-**leena**.  
 Daimler-Benz = **Dimeler**-Benz.

Dornier = **Dorn**-neay.  
 Ensign = **En**-sine.  
 Fiat = **Fee**-ut.  
 Focke-Wulf = Fokker-Vulf.  
 Fulmar = **Full**-mar.  
 Fuselage = **Fuse**-e-laje.  
 Hampden = **Ham**-den.  
 Harvard = **Har**-vud.  
 Junkers = **Yoong**-kers. —  
 Lerwick = **Lur**-wick.  
 Luftwaffe = **Loof**-taffer.

Macchi = **Mah**-key.  
 Magister = **Maj**ister.  
 Mercedes-Benz = Mersaydes-Benz.  
 Pitot tube = **Peatoh** tube.  
 Piaggio = **Pea**-ajio.  
 Savoia Marchetti = **Savoya**-Marketty.  
 Seversky = **Se-vers**key.  
 Sikorsky = Sick-**ors**key.  
 Skua = **Skewer**.  
 Stranraer = Stran-**rar**.  
 Tornado = Tor-**nah**-do.

## THE SPOTTERS' CLUBS

**K**EENNESS for aircraft recognition is mounting throughout the country. The Hearkers' Club, now transformed into the Observer Corps Club, has led the way. Now those concerned in all branches of spotting aircraft but not in the Observer Corps are banding together into Spotters' Clubs run on similar lines and adopting the same tests as the O.C.C. Such gatherings are certainly the best method of gaining in knowledge and efficiency through mutual aid and enthusiasm. Keenness is infectious.

Unfortunately the acute paper shortage prevents us from publishing regular reports of the meetings of the various Spotters' Clubs, but we shall hope to keep a record of each Club and publish its name and situation together with its number as we receive from its Hon. Secretary a notice of its formation. We will do our best to find space also for notices of meetings of the various Clubs under "Forthcoming Events."

The following is a list of the Spotters' Clubs of which we have received notice so far. All those in the various districts who are interested in the subject of aircraft recognition are invited to attend the meetings announced.

No. 1.—**SOUTHEND-ON-SEA**.—(Hon. President, G. H. Fender, 21a, Crowstone Road, Westcliff-on-Sea.)

No. 2.—**BLACKPOOL** (Arnold School).—(Hon. Sec., A. S. Curry, 86, Watson Road, Blackpool.)

No. 3.—**CHELMSFORD**.—(Hon. Sec., H. A. G. Livock, 18, New Road, Great Baddow, Essex).—Inaugural meeting Feb. 20.

No. 4.—**HATFIELD**.—(Hon. Sec., E. H. Morris, 15, The Parade, St. Albans Road, Hatfield).—Meeting at the Comet Car Park, Hatfield, on Feb. 23.—14.30 hrs.

Will those who have formed or intend to form new Spotters' Clubs please send us details so that we may duly record them and allot a chronological number?

## WEEKLY NOTES FOR SPOTTERS—VIII

(Member of the Observer Corps and a Founder Member of the Hearkers' Club)

**I**HAVE to thank many correspondents who have sent me notes of "pairs" which are frequently confused. Fortunately most of these suggestions concern either similar friendly types such as the Skua and Roc, the Battle and Fulmar, the Martlet and Buffalo—or similarity between certain hostile pairs, for example, the two Dornier bombers, the Me 110 and the Ju 86. Close similarity between British and hostile types is fortunately rare and most of them have been described in detail.

Although there does not at first sight appear to be any real harm in confusing types of the same nationality, this betrays uncertainty in regard to positive points of recognition which may lead to more serious errors.

When a spotter finds that a particular pair continually defeat him I recommend drastic measures. Cut out silhouettes and photographs of the offending pair, first removing the names. If cut from *THE AEROPLANE SPOTTER* you will probably find four views and three or four silhouettes of each type. After cutting these out, mix them together, shake the mixture well and sort them out again, repeating until you can correctly place each one without a trace of hesitation.

If you don't want to carve up your SPOTTER—and who does?—take simple outline tracings or make freehand sketches. Often this can be done during a quiet spell of duty. If you deal faithfully with each pair in turn you will soon wonder that you ever confused them.

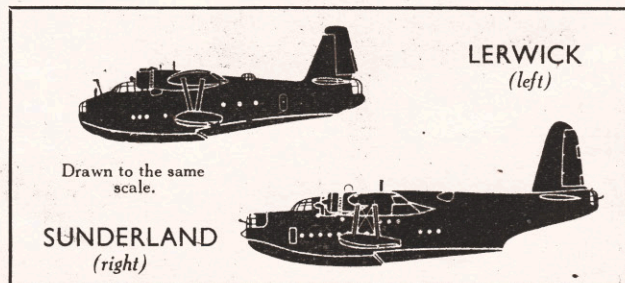
Through the admirable industry of the secretary of one of the Observer Corps Clubs I recently received a three-months' analysis of errors made during their Third Grade tests. Although there was not a single case of failure to recognise the side elevation of a Wellington, 33% of incorrect answers were given for the side view of the Sunderland—generally supposed to be one of the most easily distinguished types. The most common error was confusion with the Lerwick.

All these competitors undoubtedly knew that the Sunderland has four motors and that the Lerwick has only two, so the

mistake is only likely to arise in the side view. Even from this point of view, the two craft have many distinctive features.

Considering major points only, notice (1) the square-cut, relatively narrow "snout" of the Sunderland; (2) the tall, narrow, single fin and rudder with gracefully rounded top (Sunderland), rather wider fin and rudder with square-cut top (Lerwick); (3) sharply defined second step, aft of which the hull lines are swept up abruptly to the stern which is narrow and resembles a pan-handle (Sunderland); (4) the Sunderland tail-turret projects aft of rudder, that of Lerwick shows a distinctive "bite" below the rudder, partially filled by the tail turret; (5) the Lerwick has a small turret amidships.

If, as occasionally happens, you easily pick up the distinctive points, but experience difficulty in remembering to which of two similar aircraft they belong, think out some simple alliterative phrase which will tie up the respective recognition features with the name or initial letter of the aircraft. Here is an example, coupled with a warning that new phrases should be rehearsed quietly. When you start an alliterative sentence you can never be quite sure where it will lead—everything depends upon the initial letter! *Sunderland has straight snout and second step swept snappily to stuck-out stern.*



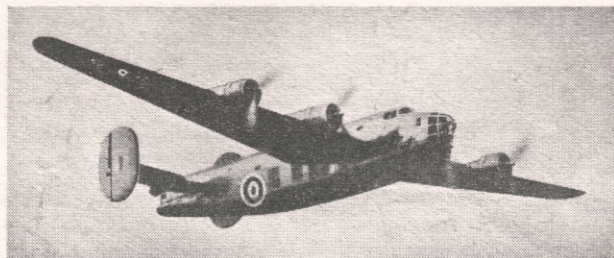
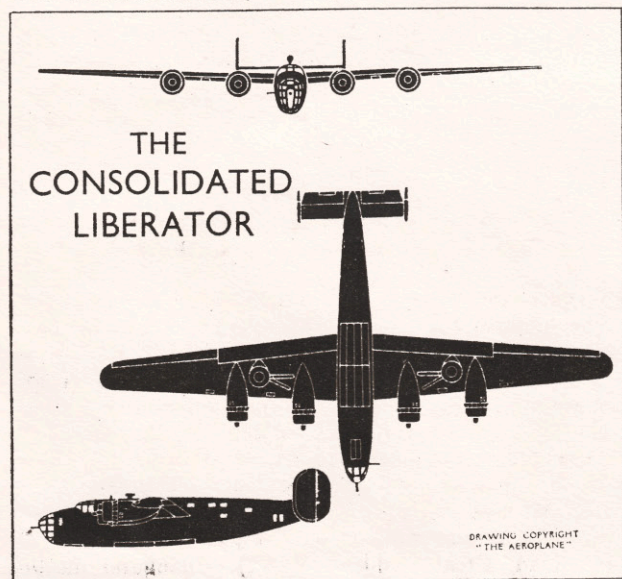


## AIRCRAFT IN THE NEWS—VIII

## THE CONSOLIDATED MODEL 32—THE LIBERATOR

**H**IGH SPEED, long range big bomb loads and powerful defence are characteristic of the Consolidated Liberator heavy bomber—about the most formidable of all the aeroplanes now being built in the United States for the R.A.F. At least 120 of these bombers are on order and the first of them will be arriving in this country by air very soon.

The Liberator, designated by its makers the Consolidated Model 32 and by the U.S. Army Air Corps the B-24, is a four-motor high wing monoplane of unusually high aspect ratio with a short tubby fuselage, twin fins and rudders and a



tricycle undercarriage. Its high top speed of around 335 m.p.h. at 16,000 ft., achieved with four 1,200 h.p. Pratt and Whitney Twin Wasp R-1830-S3C4-G radial motors, is a result of clean design and use of the highly efficient Davis wing. This wing, which is unusually thin and is made possible by multi-spar construction, is claimed to have about 25% less drag than an equivalent wing of normal section at low-speeds and 10% less drag at high speeds. The landing speed is kept down by use of big Fowler flaps.

With a bomb load of more than 4,000 lb. for a range of more than 3,000 miles the Liberator should be able to strike at all parts of enemy territory. For the R.A.F. the armament will probably consist of at least three power-operated multi-gun turrets including a turret in the tail.

**DIMENSIONS.**—Span 110 ft.; length 63 ft. 9 ins.; height 18 ft. 2 in.; wing area 1,050 sq. ft.; aspect ratio 11.5.

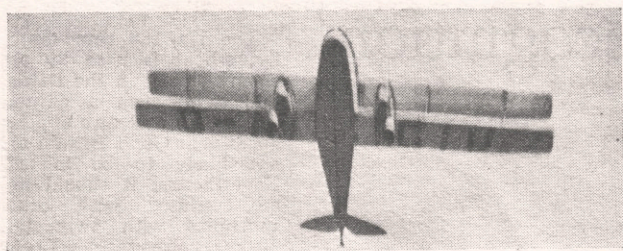
**WEIGHTS (approx.).**—Loaded 41,000 lb.; wing loading 39 lb. per sq. ft.

**PERFORMANCE (approx.).**—Max. speed 335 m.p.h.; range 3,000 miles at 230 m.p.h.; service ceiling 36,000 ft.

**POINTS OF RECOGNITION.**—High wing of remarkably high aspect ratio. Deep short fuselage with wing well back from nose. Four motors. Big twin fins and rudders at end of cantilever tailplane. Main wheels retract outwards into wings, nose wheel forwards into fuselage.

## CIVIL IDENTIFICATION—VIII

## THE de HAVILLAND D.H.84—THE DRAGON



**B**UILT to the specification of Mr. Edward Hillman for an eight-seat light transport, the de Havilland Dragon began a new era in low power feeder line aeroplanes intended to pay their way without subsidy. Though the design was first discussed in August, 1932, the first Dragon flew on Nov. 24, 1932. The Dragon was a success almost immediately because of its high carrying capacity and speed in relation to its low horse-power. It was used on air lines in Great Britain and all over the World and some were used by the Iraqi Air Force as general purpose machines. The Dragon was used also for survey and ambulance work and a number are still in use in

the Empire. In Great Britain now this aeroplane is used mainly for communications work in the North.

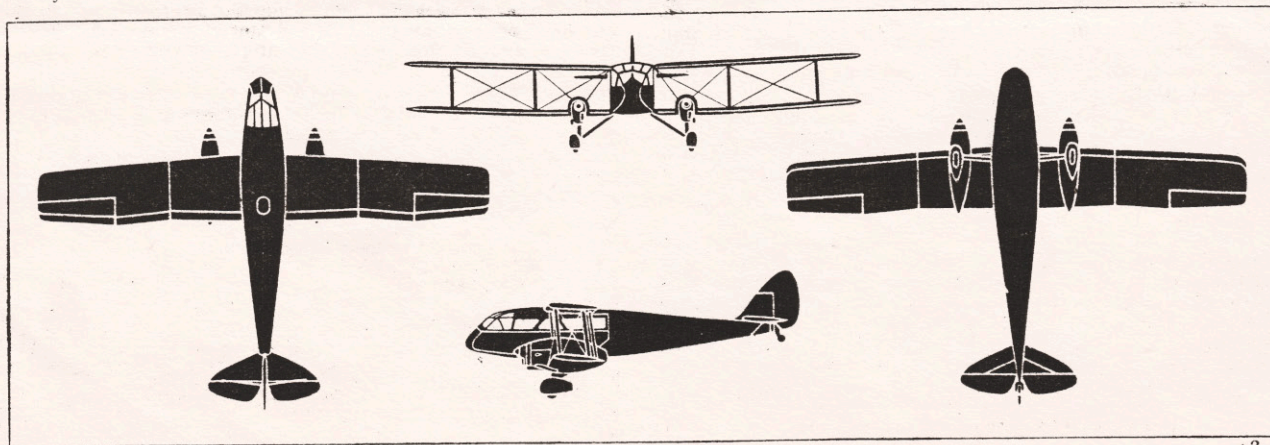
The D.H. 84 is an equal-span braced biplane with dihedral on both the upper and lower wings and a high aspect ratio. It is of wood construction and fabric covering. It has a fixed undercarriage and single fin and rudder. Accommodation is for six or eight passengers and a pilot who sits in the extreme nose.

**DIMENSIONS.**—Span, 47 ft.; length, 34 ft. 6 ins.; height, 10 ft. 1 in.; wing area, 376 sq. ft.

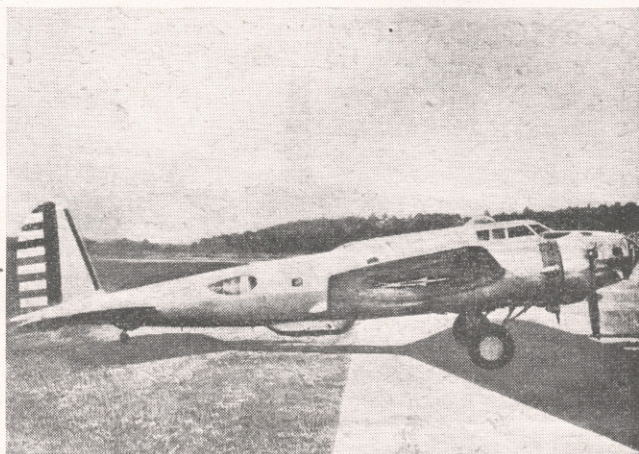
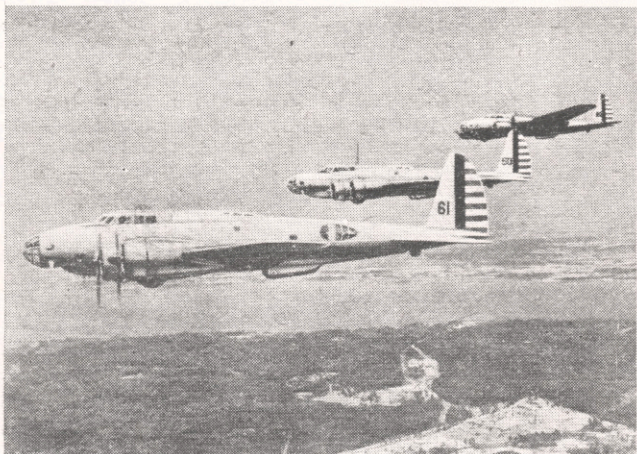
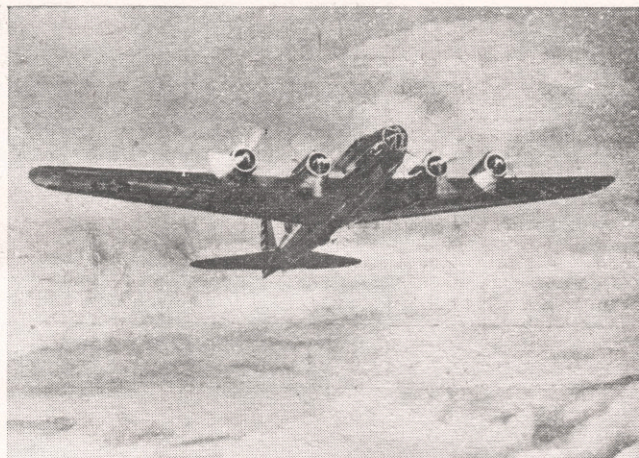
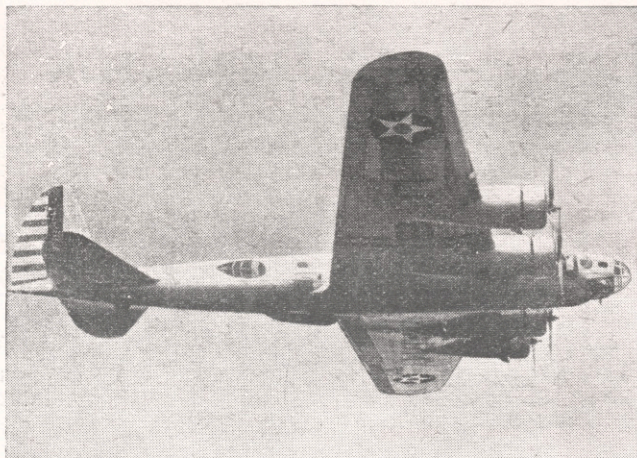
**WEIGHTS.**—Empty, 2,300 lb.; loaded, 4,200 lb.

**PERFORMANCE.**—Top speed, 129 m.p.h. at 1,000 ft.; range, 545 miles at 109 m.p.h. at 1,000 ft.; initial climb, 635 ft. per min.; service ceiling, 13,100 ft.

**POINTS OF RECOGNITION.**—Equal-span braced biplane. Almost straight leading edge. On the trailing edge the inner sections of the wing are tapered in plan and the extensions sweep back, then continue in a straight line to the wing tips, which are square cut. Slab-sided fuselage tapering sharply towards tail unit. Single fin and rudder. Two motors mounted on lower inner sections of the wings. The D.H. 84 Dragon cannot be confused with the D.H. 89 Dragon Rapide because the wings of the latter are tapered with very pointed tips.







**THE FLYING FORTRESS.**—Several of these Boeing B-17B bombers (four 1,200 h.p. Wright Cyclone G-205A motors) are now in this country, having flown from America. Shown here in the markings of the U.S. Army, the B-17B has a top speed of 300 m.p.h. at 14,000 ft. and a normal range of 2,100 miles at 232 m.p.h. The span is 103 ft. 9 in.

**D**ORNIER Do 215 bombers (two 880 h.p. B.M.W. 132Dc motors each) and a Blohm and Voss Ha 138 flying-boat (three 600 h.p. Junkers Jumo 205c Diesel motors) were last week's recognition tests.

The Do 215 bombers have a number of prominent features for recognition in the views shown. The most outstanding are the twin fins and rudders mounted at the ends of the tailplane and the rather bulbous nose in contrast to the Do 17. The wings are not sharply tapered and have rounded tips. The motors are underslung and their nacelles extend to the trailing edges of the wings. The fuselage tapers towards the tail and changes section from a wedge form to an oval.

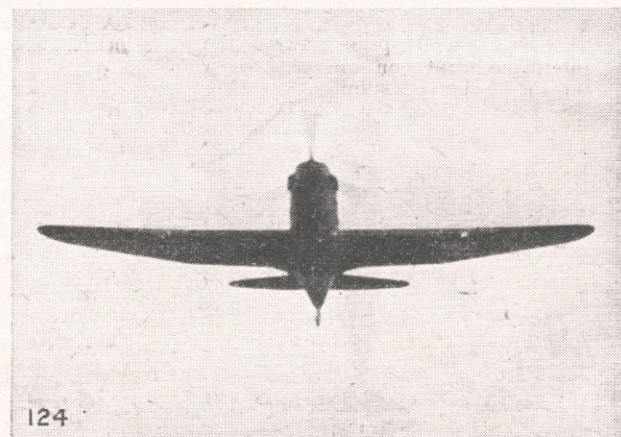
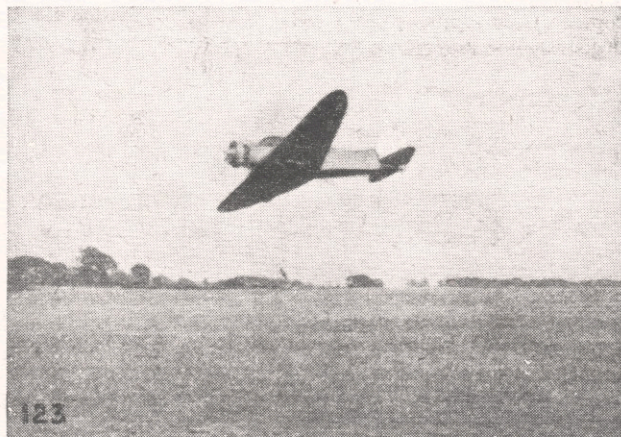
## Aircraft Recognition



**LAST WEEK'S PROBLEM.**—(Left) Do 215s and (right) an Ha 138

The Ha 138 three-motor flying-boat is used by the enemy chiefly in the Baltic, but is of such a curious shape that any rare appearances near Great Britain are not likely to be missed. Nevertheless, it should not be confused with other machines with twin tail booms such as the new Lockheed Lightning, the Cunliffe Owen "Flying Wing," or the few remaining Fokker G-1s. The Ha 138 has a short hull with a comparatively long nose, a slightly

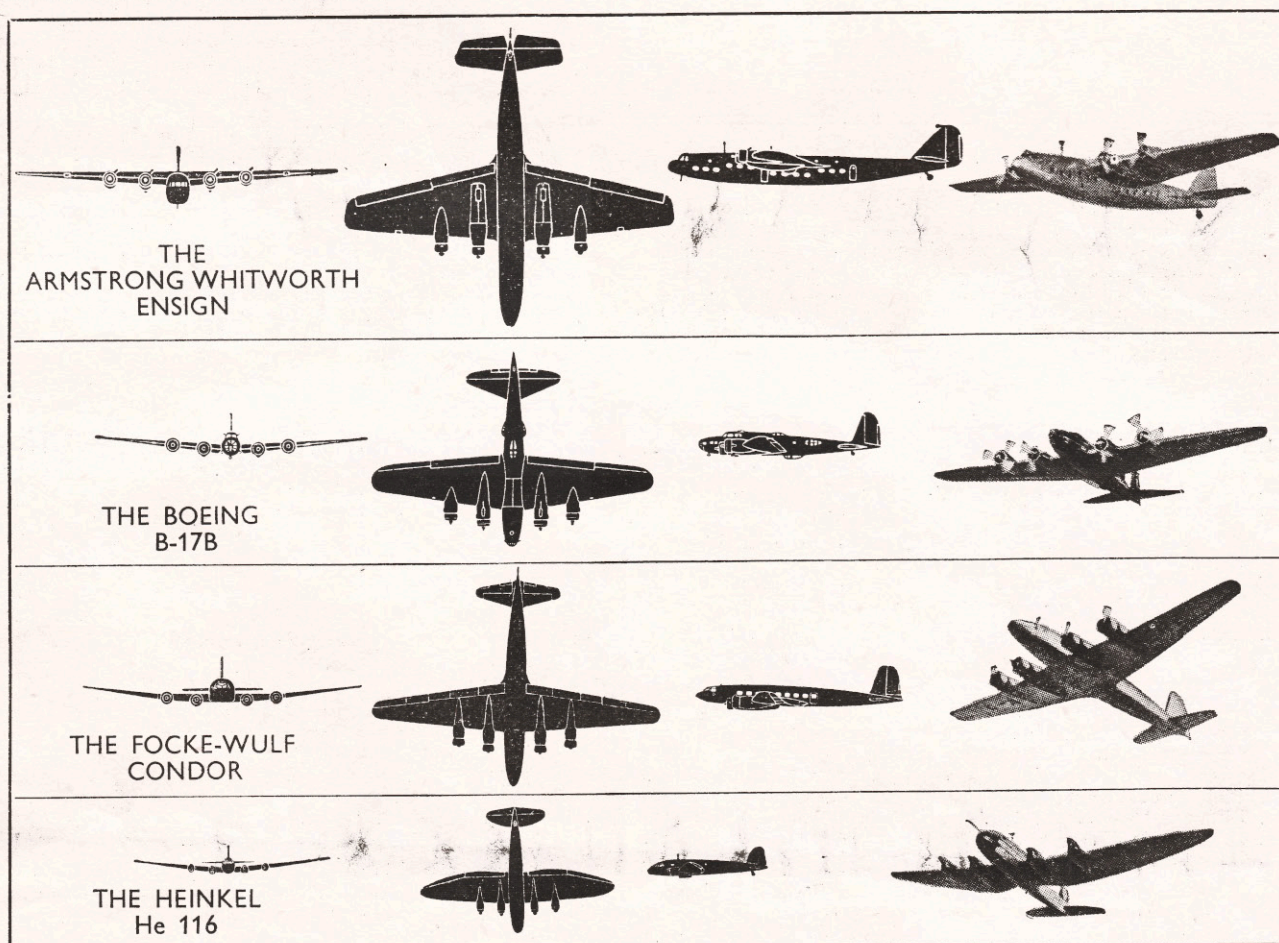
tapered wing, raised above it, two tail booms with twin fins and rudders and cantilever wing tip floats. The projecting bows, the wing tip floats and the tail booms are all prominent in the views shown.



**FOR IDENTIFICATION VIII.**—Two more photographs to give practice in the recognition of Allied and enemy aeroplanes. What they are and notes on their characteristics will be published with two more photographs next week.



# AIRCRAFT COMPARISON—VIII FOUR MOTORS AND SINGLE FINS



FOUR OF A KIND.—Four-motor monoplanes are appearing in increasing numbers although most have two or more fins and rudders. These drawings, all to the same scale, emphasise the points of difference between some four-motor types with single fins and rudder.

## THE SPOTTER'S GLOSSARY OF AERONAUTICAL TERMS

**BALLOON.**—An aerostat which consists of an envelope containing a gas lighter than air and is not equipped for mechanical propulsion. Types of balloon are:—Barrage Balloon, Captive Balloon, Free Balloon and Kite Balloon.

**BANK.**—The angle between the lateral axis of an aeroplane and the horizontal plane. **BANKING** is angular motion about the longitudinal axis of an aeroplane when turning.

**BAROGRAPH.**—A recording barometer used in aeronautics to record the height of any aircraft during flight. The barograph is carried in the aeroplane and traces out the path on a revolving drum.

**BAY.**—The lateral space between the interplane struts on one side of a biplane. Thus a Gauntlet is a two-bay biplane, a Gladiator a single-bay biplane and a Swordfish a one-and-a-half-bay biplane.

**BEACON.**—An apparatus, usually on an

airway, which emits light signals to indicate a particular geographical position to air crews.

**BEAUFORT SCALE.**—A numerical system, ranging from 0 (Calm) to 12 (Hurricane) to classify the speed of the wind and covering a range of 0 to 75 m.p.h. or over. The system was originated by Rear-Admiral Sir Francis Beaufort and is based on observing the effect of the wind on common objects.

**BIASED FABRIC.**—Multi-ply fabric used for covering aircraft with one or more piles cut diagonally so that the warp is at an angle to the length.

**BIG END.**—In an aero-motor the crank-pin end of a connecting rod.

**BIPLANE.**—An aeroplane or glider which has two main planes one above the other.

**BISE.**—A cold, dry wind which blows in the Winter from a Northerly direction in Southern France.

**BLADE ANGLE.**—Of an airscrew, the acute angle between the flat under-surface of one blade and the right angle from the airscrew shaft,—the plane of rotation. The blade angle is in effect the angle at which an airscrew blade bites the air. It is variable in most airscrews by turning the blade in its socket to alter the "pitch."

**BLADE LOADING.**—Used with reference to a gyroplane or helicopter. It is the loaded weight of the machine divided by the total area of the rotor blades, not to be confused with disc loading, which is the equivalent of wing loading.

**BLEEDING.**—A term used with reference to the hydraulic system of aircraft and concerns the expulsion of air from a system. Applied to an aeroplane as a whole it retains its idiomatic sanguinary significance.

**BLIZZARD.**—Meteorologically, a high wind accompanied by extreme cold and driving snow.

**BONDING.**—The joining together of all metal parts of an aeroplane to form a continuous electrical conductor so that no sparks are caused between separate parts of the structure when they are charged with static electricity.

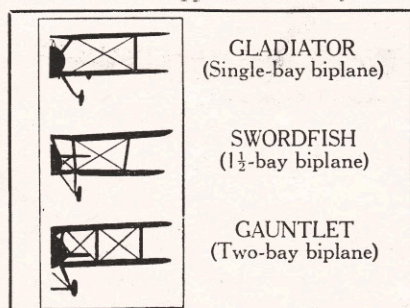
**BONDING NOISE.**—Interference in radio reception caused by the relative movement of metal parts of an aeroplane in contact with each other.

**BOOM WELL (or TROUGH).**—A depression in the plating of a float of a seaplane to take the end fittings of struts or booms.

**BOOMS.**—Usually **TAIL BOOMS**, a longitudinal framework which is used on some aeroplanes in place of the fuselage to carry the tail unit.

**BOOST.**—The pressure, which may be above or below that of atmospheric pressure, in the induction manifold of an aero-motor. It is measured in lb. per sq. in. above or below standard sea-level atmospheric pressure or in inches of Mercury absolute. In the U.S.A. boost pressure is usually termed **MANIFOLD PRESSURE**.

(To be continued.)





# THE OBSERVER CORPS CLUB

## (FORMERLY THE HEARKERS' CLUB)

### Proficiency Tests

THE LISTS of aeroplanes on which the examinations for the proficiency certificates of THE OBSERVER CORPS CLUB are based have been overhauled and approved by the Council.

The Third Class Test will be on 31 side and underneath plan silhouettes selected from a basic list of 50 British, American and German aeroplanes. Variations of basic types among this 50 bring up the total to 62 aeroplanes in the Third Grade list. These 62 aeroplanes are considered to be the minimum which any observer should be required to know. All biplanes have

been omitted and those previously included in the Third Class Tests are now transferred to the Second Class.

The Second Class Test is selected from a basic list of 100 types of aeroplane, including the 50 in the Third Grade.

The First Class Test is selected from a basic list of 150 aeroplanes, including the 100 in the Third and Second Grades.

Each silhouette is shown for 20 seconds on the screen. The new lists become operative from March 1. Complete sets of standard silhouettes for the Third Class Tests are now available.

#### THIRD CLASS TEST BRITISH AEROPLANES (30)

1. Airspeed Oxford.
2. Armstrong Whitworth Ensign.
3. Armstrong Whitworth Whitley.
4. Avro Anson.
5. Blackburn Botha.
6. Blackburn Roc.
7. Blackburn Skua.
8. Bristol Beaufort.
9. Bristol Blenheim IF.
10. Bristol Blenheim IVF.

11. Bristol Bombay.
12. Boulton Paul Defiant.
13. de Havilland D.H.91 Albatross.
14. de Havilland D.H.95 Flamingo (Hertfordshire).
15. Fairey Battle Bomber.
16. Fairey Battle Trainer.
17. Fairey Fulmar.
18. Hawker Hurricane.
19. Handley Page Harrow.
20. Handley Page Hampden.

21. Handley Page Hereford.
22. Miles Magister.
23. Miles Master.
24. Saro Lerwick.
25. Short Sunderland.
26. Supermarine Spitfire I.
27. Supermarine Spitfire III.
28. Vickers-Armstrongs Wellington IA.
29. Vickers-Armstrongs Wellington II.
30. Westland Lysander.

#### AMERICAN AEROPLANES (8)

31. Brewster Buffalo.
32. Consolidated Catalina.
33. Curtiss Tomahawk.

34. Douglas Boston.
35. Lockheed 14.
36. Lockheed Hudson.

37. North American Harvard I.
38. North American Harvard II.

#### GERMAN AEROPLANES (24)

39. Blohm and Voss Ha 139.
40. Blohm and Voss Ha 142.
41. Dornier Do 17.
42. Dornier Do 215.
43. Dornier Do 18K.
44. Dornier Do 24.
45. Focke-Wulf Fw 187.
46. Focke-Wulf Fw 200K Kurier.

47. Heinkel He 111K Mk. IIA.
48. Heinkel He 111K Mk. VA.
49. Heinkel He 113.
50. Heinkel He 115.
51. Henschel Hs 126.
52. Junkers Ju 52/3m.
53. Junkers Ju 52/3mW.
54. Junkers Ju 86.

55. Junkers Ju 86K.
56. Junkers Ju 87B.
57. Junkers Ju 88A1.
58. Junkers Ju 89.
59. Junkers Ju 90.
60. Messerschmitt Me 109E.
61. Messerschmitt Me 110.
62. Messerschmitt Jaguar.

#### -Marking

One mark is awarded for each type correctly identified. The name of the constructor is not required, but where the aeroplane has a distinguishing mark, such as Spitfire I and Spitfire III, this should be given.

Half a mark is awarded where the following types are confused—

- Blenheim IF and Blenheim IVF.
- Hampden and Hereford.
- Spitfire I and Spitfire II (side and head-on views).
- Wellington IA and Wellington II.
- Lockheed 14 and Lockheed Hudson.
- Do 17 and Do 215.

He 111K Mk. IIA and He 111K Mk. VA.  
Ju 86 and Ju 86K.  
Ju 89 and Ju 90.  
Me 110 and Me Jaguar.

Full marks are awarded in the following instances:—

- Roc and Skua (plan view).
- D.H. Flamingo or Hertfordshire.
- Battle Bomber and Battle Trainer (head-on and plan views).
- Harvard I and Harvard II.

Those gaining 25 marks or more (80 per cent.) out of the possible 31 are deemed to have attained the required standard of proficiency in the Third Class Test.

#### SECOND CLASS TEST

THE SECOND CLASS TEST will be on 63 side, underneath plan and head-on views selected from a basic list of 100 British, American, German and Italian aeroplanes—the 50 machines in Class Three, plus a further 50. Variations of basic types among these 100 bring up the total to 115 aeroplanes in the Second Class Test. These include most of the types likely

to be seen over this country, and represent the standard level of proficiency to be aimed at by all Observers. American types are called by the names given to them in the R.A.F. A list of these names and equivalent U.S. numbers was published in THE AEROPLANE SPOTTER on Jan. 23.

#### BRITISH (24)

63. Airspeed Courier.
64. de Havilland D.H.82A Tiger Moth.
65. de Havilland D.H.84 Dragon.
66. de Havilland D.H.86B.
67. de Havilland D.H.87B Hornet Moth.
68. de Havilland D.H.89A Dominie (Dragon Rapide).
69. de Havilland D.H.90 Dragonfly.

70. Fairey Albacore.
71. Fairey Swordfish landplane.
72. Fairey Swordfish seaplane.
73. General Aircraft Cygnet.
74. General Aircraft Owllet.
75. General Aircraft Monospar Universal.
76. Gloster Gladiator.
77. Hawker Audax Trainer.

78. Hawker Henley.
79. Miles Mentor.
80. Percival Proctor.
81. Percival Q.6.
82. Saro London II.
83. Short Empire Boat.
84. Short Singapore.
85. Supermarine Stranraer.
86. Vickers Wellesley.

#### AMERICAN (14)

87. Bell Caribou.
88. Boeing B-17B.
89. Consolidated Liberator.
90. Curtiss Cleveland.
91. Curtiss Mohawk.

92. Douglas DC-2.
93. Douglas DC-3.
94. Grumman Martlet.
95. Lockheed 10 Electra.
96. Lockheed 12.

97. Martin Maryland.
98. Northrop A-17A.
99. Stinson Reliant.
100. Vought-Sikorsky Chesapeake.

#### GERMAN (7)

101. Blohm and Voss Ha 138.
102. Blohm and Voss Ha 140.
103. Dornier Do 26.

104. Heinkel He 59.
105. Heinkel He 60.

106. Heinkel He 114.
107. Henschel Hs 123.

#### ITALIAN (8)

108. Cant Z.1007bis Alcione.
109. Fiat B.R.20 Cicogna.
110. Fiat C.R.42 Freccia.

111. Fiat G.50 Falco.
112. Macchi C.200 Saetta.
113. Savoia S.M.79 Sparviero.

114. Savoia S.M.81 Pipistrello.
115. Savoia S.M.82 Canguru.



## THE OBSERVER CORPS CLUB

### Marking (Second Class Test)

One mark is awarded for each type correctly identified. The name of the constructor is not required nor are the "pet names" of Italian types.

Half a mark is awarded where the following types are confused:—

General Aircraft Cygnet and General Aircraft Owlet.  
Douglas DC-2 and Douglas DC-3.

(Twenty-one Branches of the Observer Corps Club have now been formed. A further 60 Branches are in the course of formation. Because of this great expansion and because of the acute paper shortage which at present limits the size of "THE AEROPLANE SPOTTER" we must appeal to all Hon. Secretaries to condense the reports of their Branch Meetings into the smallest number of words.)

### BRANCH 2 (SHIRLEY)

Hon. Sec.: T. C. Eleming, 42, Park Lane, Wallington.

OUR February meeting was one of our most successful efforts. We had an attendance of 60 and those present thoroughly enjoyed an instructive illustrated talk by R. A. Saville-Sneath on "More about Clouds."

We owe a debt of gratitude to Mr. Saville-Sneath for his untiring efforts on our behalf. He has instructed and entertained us month by month for some considerable time.

The following members qualified in the Second and Third Class Tests:—  
**2nd Class:** S. P. Cushing, Y1 (53); D. Jenkins, Centre (53); R. G. Brown, Y1 (57); V. V. Wiegand, Y2 (56½); N. L. Cutlack, Z3 (55½); H. Wagner, Y2 (55½); T. C. Fleming, Y2 (55); C. N. Sidgwick, Z3 (55); E. Smith, Y1 (54); C. G. Stevens, Z4 (50).

**3rd Class:** D. Jenkins, Centre (51); C. N. Sidgwick, Z3 (51); N. L. Cutlack, Z3 (51); S. P. Cushing, Y1 (51); R. G. Brown, Y1 (50); B. Mitchell, Y1 (50); F. Smith, Y1 (50); T. C. Fleming, Y2 (27); G. K. Lydon, Y2 (26); G. B. Pugh, Y2 (26); H. Wagner, Y2 (27); V. V. Wiegand, Y2 (30); H. Cryer, Z1 (26½); J. Fawcett, Z1 (25); M. S. Jackson, Z3 (28½); R. T. Norton, Z4 (28); H. R. Le Seur, Z4 (28); C. G. Stevens, Z4 (29).

The Spoon Competition was won jointly by Messrs. Cushing and Jenkins, who are both to be congratulated on their very fine effort. The Branch decided in this instance, to present a spoon to each of them.

### BRANCH 7 (SOUTHBEND-ON-SEA)

Hon. Sec.: E. H. McLean, 109, Broadway, Leigh-on-Sea.

THE fifth meeting of the Branch was held Feb. 2 at 10.00 hrs. Fifty Observers attended.

The Chairman, Mr. S. S. Sylvester (H.O.), 04, gave a report of the meeting of the General Council which he attended on Jan. 19 and explained the change of name and constitution of the Club which was unanimously approved by the Members.

A talk by the Chairman on "The Comparison of Aircraft" was followed by a 3rd Class Test and spoon competition. Mr. R. A. Saville-Sneath, who travelled a long way to attend the meeting, created great enthusiasm and interest by his illustrated lecture on "Mnemonics." The general lines for remembering particular features suggested by him will be very helpful. Some of his examples were also very amusing. He came to the rescue when we had reached the position of 10 Members still tying after a replay in the Spoon Competition by showing his slides of tails, which soon settled the issue.

The result of the Third Class Test and Spoon Competition was as follows:—  
**41 Correct After a Tie With 31:** E. A. Jeffries, 01; R. J. Matthews, 01; E. H. McLean, 04; A. R. L. Steel, 04; G. Day, P1; B. J. Dodd, P1; E. French, P1; G. A. Miller, P1; F. Page, P1; G. E. Anderson, P2; R. H. Johnson (H.O.), P2; R. B. Key, P2; J. Rolski, P5. G. E. Anderson won the Spoon on a replay with 15 correct out of 18 tailplanes shown on the screen.

**31 Correct:** C. Bright, 01; R. C. Mays, M3; W. H. Plowright (H.O.), P1; P. Austin, P1; E. Fincham, P1; 30½ **Correct:** W. E. Hills, 02; H. E. Chambers, 02; R. J. A. Webb, P1; F. Luckwood, P2; C. F. Cumber, P2; S. J. Booty, M3. **30 Correct:** T. B. Newton, 04; C. Gardner, P3. **29½ Correct:** F. J. Burton, P2; H. W. Davies, P2. **29 Correct:** A. Whybrow, 04. **28½ Correct:** Flt. Lt. Walmouth (A.G.O.); J. R. C. Thatcher, 04; E. Little, 01; N. Cotton, P5. **28 Correct:** G. E. Lucking, M3; A. Wright, P2. **27 Correct:** P. E. Hutley, 01; J. W. Burgess, P5. **25 Correct:** A. J. Green, 04; A. Hudson, P5.

The next monthly meeting will be held on Sunday, Mar. 2. Details will be available later.

### BRANCH 15 (WAREHAM)

Hon. Sec., Lt.-Col. G. R. Rae, Gardenfield, Compton Avenue, Parkstone, Dorset.

THE INAUGURAL MEETING was held on Jan. 5 at the Empire Cinema, Wareham. About 70 Observers from the various Posts in the locality were present.

After a short address by the O.G.O. explaining the aims and objects of the Club, the meeting formally adopted the Constitution and proceeded to elect officers as follows:—

### FORTHCOMING EVENTS

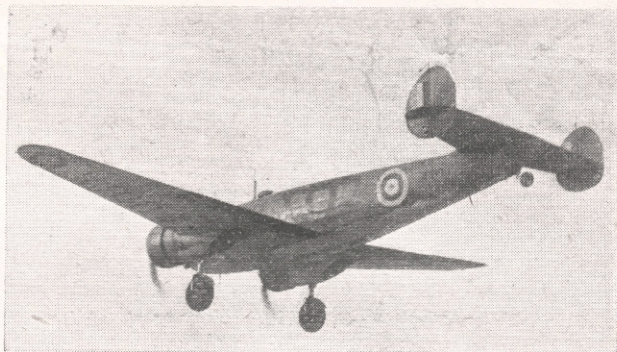
Feb. 22.—Guildford.—O.C.C. Branch 1 (Guildford).—Meeting on new Constitution.—Talk by Leonard Taylor on "The A.T.C. and the O.C.C."—At the Technical College, Guildford.—14.30 hrs.

Feb. 23.—Hendon.—O.C.C. Branch 3 (Hendon).—Talk by an R.A.F. fighter pilot.—Class II and III Tests.—At Hendon Central Library.—10.30 hrs.

Feb. 23.—Winchester.—O.C.C. Branch 16 (Winchester).—Talk by R. A. Saville-Sneath on "Structural Terms Illustrated," and talk by a member of the Fleet Air Arm. Examination for Third Class Certificates.—At Rifle Depot Gymnasium, Winchester.—14.30 hrs.

Lockheed 10 Electra and Lockheed 12.

Those gaining 50 marks or more (80 per cent.) out of a possible 63 are deemed to have passed the Second Class Test. Those gaining 55 marks or more (90 per cent.) are deemed to have passed with Credit. Those gaining 60 marks or more (95 per cent.) are deemed to have passed with Distinction.



UP THE GARDEN.—This photograph of an elderly Lockheed Electra used for ferrying "ferry pilots" came to us with the following inscription:—"A Lockheed Hudson circles before landing after a flight straight from America." In fact, this Electra has been in this country for three years.

PRESIDENT.—Wing Cmdr. D. Stewart, M.C., A.F.C., O.G.O.

CHAIRMAN.—H. R. Pearce, P3.

HON. SECRETARY.—Lt.-Col. G. R. Rae, P3.

HON. ATTENDANCE OFFICER.—Capt. D. Hamer, M.C., A.O.G.O.

HON. COMPETITION OFFICERS.—C. Foot, R4, J. L. Merrick, P1.

HON. AUDITOR.—W. Ramsey, P2.

The 3rd Class Test was then held, 20 members proving successful.

While the papers were being checked over, an instructional film was shown, and the meeting closed with a hearty vote of thanks to J. L. Merrick for his kindness in permitting the Club to make use of his cinema for this and future meetings, as well as providing suitable films to be shown at each meeting.

The Branch held its second meeting on Feb. 2, the attendance again being good, about 80 members being present, in spite of very bad weather. In addition, some 30 members of the local Home Guard were present, by invitation.

Sqdn. Ldr. R. Beech, R.A.F. (representing Group Capt. G. V. Howard) was welcomed, and in a brief speech, he reminded the audience of the importance of the work of the Observer Corps, and stressed the dependence of the R.A.F. on the information furnished by the Corps.

The Test for the 3rd Class Certificate was then held; 42 members were successful (including 13 "possibles").

The meeting closed with the showing of two fine films, "Fighter Pilot" and "Wings over the Empire," to the enjoyment of all present.

We are much looking forward to welcoming Mr. H. J. Lowings as the Guest Speaker at our next meeting on Mar. 2.

### BRANCH 20 (PRESTON)

Hon. Sec.: W. E. Thomas, 11, Kew Gardens, Penwortham, Preston, Lancs.

THE inaugural meeting was held on Feb. 9 at the Reform Club premises at Preston. The following officers were elected:—

PRESIDENT: Lt.-Col. E. Tuite Dalton, M.C. (O.G.O. No. 7 Group).

VICE-PRESIDENT: H. Lee (A.O.G.O. No. 7 Group).

CHAIRMAN: Capt. G. G. Speight.

VICE-CHAIRMAN: H. Spencer (H.O., L2 Post).

HON. SECRETARY: W. E. Thomas.

HON. TREASURER: J. R. Butterfield.

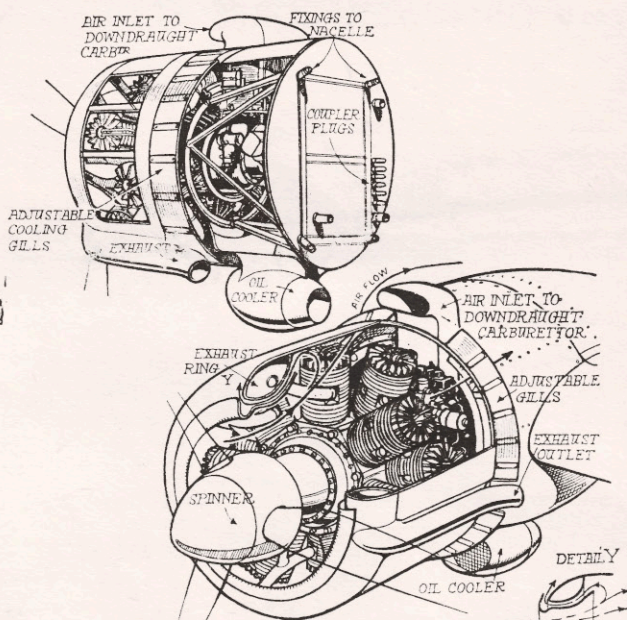
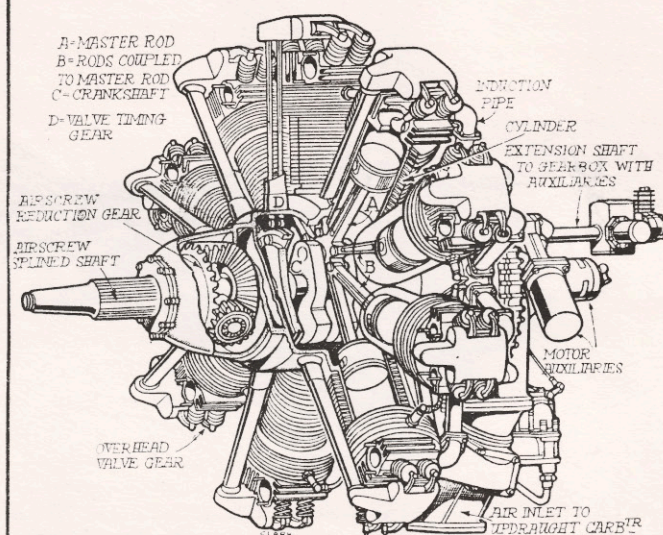
HON. COMPETITION SECRETARY: G. R. Rigby.

HON. ATTENDANCE OFFICER: W. Lamb.

HON. AUDITORS: C. W. Connard, J. S. Deakin.



Drawing by J. H. Clark copyright "THE AEROPLANE SPOTTER."



**RADIAL AERO MOTORS IN DETAIL.**—Parts of typical air-cooled radials. On the left is a 9-cylinder poppet-valve one-row radial. On the right are 14-cylinder sleeve-valve two-row radials showing a typical long-chord low-drag cooling. The modern system of quickly detachable "power-eggs" is illustrated in the top drawing.

#### Mental Aerobatics—VIII

Gibbs-Smith, Beaverbrook, Chapman and Bradley flew a Hudson, a Battle, a Whitney and a Lysander. Who flew What? Gibbs-Smith flew a bomber. Beaverbrook flew a single-motor monoplane. Chapman flew an aeroplane made in England. Gibbs-Smith had a Rolls-Royce Merlin motor.

#### Last Week's Mental Aerobatics

MacNeill flew the Spitfire Mk III, Trebell the Defiant, Attwood the Buffalo, McKay the Tiger Moth, Atkinson the Ensign and Walker the Roc. The Mohawk was grounded.

#### Silhouettes—The Right and the Wrong (see below)

THE CORRECT silhouettes are:—1, Miles Master; 2, Heinkel He 111K Mk. VA; 3, Junkers Ju 88; 4, Miles Master.

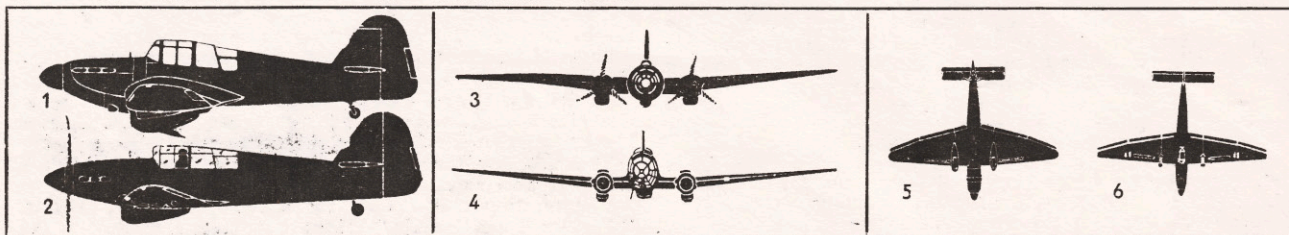
#### Solution to Last Week's Crossword

ACROSS.—1, Vegagull. 8, Ventura. 9, I.E. 10, An. 11, BF. 13, Inlet. 15, Gladiator. 17, Nil. 19, Owl. 21, Enth. 22, OE. 23, Cessna. 24, Tre. 25, Perth.

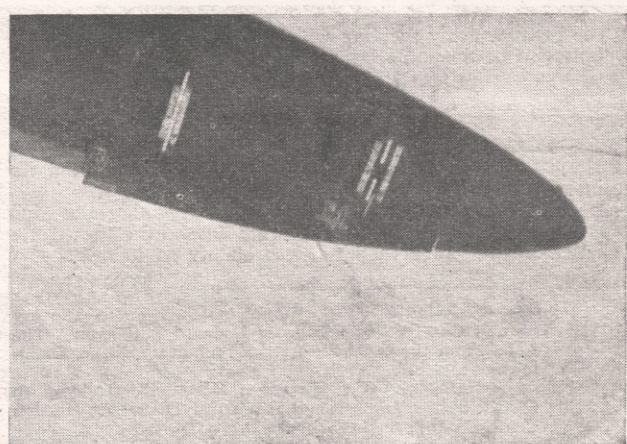
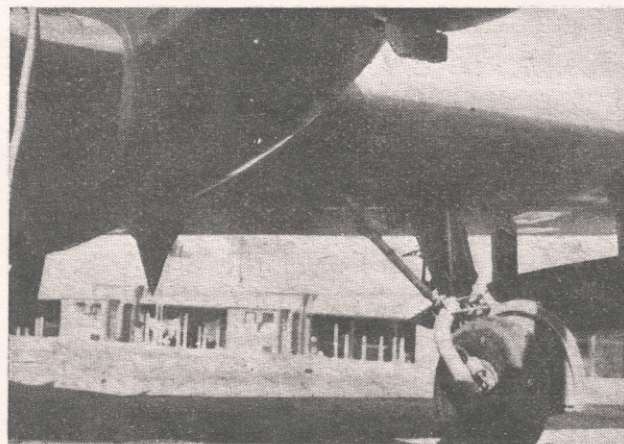
DOWN.—1, Vn. 2, Eta. 3, Gun. 4, Ar. 5, Gauntlet. 6, Liberator. 7, Left. 8, Vengeance. 12, Jacobs. 14, Lo. 16, Inline. 18, Wheel. 20, Wasp. 24, Th.

#### Aeroplanes in Detail

ONCE again we have to apologize to the many who will bewail the absence of the detailed sectioned drawing from a page of this week's issue—it was to have been the Hampden. The need to set out the lists of aeroplanes which form the foundation of the study of aircraft recognition is the reason for the omission. The series of "Aeroplanes in Detail" will be continued next week.



**THE RIGHT AND THE WRONG.**—1. Accurate and detailed silhouettes are at once essential and rare. Many inaccurate silhouettes are being circulated and studied. This has led to much confusion. Three of these inaccurate and misleading silhouettes are included above together with the correct silhouettes which should replace them. Which are the correct silhouettes and which aeroplanes do they represent? When readers have made their choice they may read the answers in the left column above by turning the paper upside down. The importance of studying the correct silhouettes need not be emphasised. Many of the inaccuracies arise from lack of precise information, but the position is rapidly improving and the complete sets of silhouettes now in preparation for the various classes of tests should help materially towards a National standard.



**WHERE AND WHAT?**—Two more posers to test detailed knowledge. The problems last week were (left) the cockpit of a Blenheim I; and (right) the undercarriage of a Savoia Marchetti S.M.81 "Pipistrello" bomber.

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